

Rec'd PCT/PTO 18 JAN 2005

521. 687

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



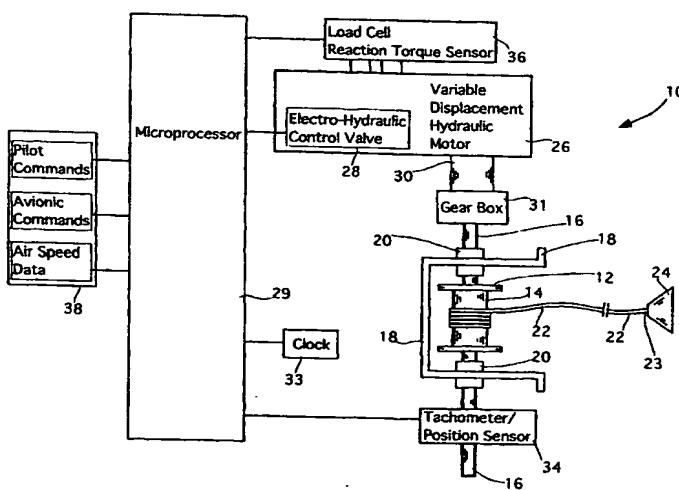
(43) International Publication Date
26 February 2004 (26.02.2004)

PCT

(10) International Publication Number
WO 2004/016505 A1

- (51) International Patent Classification⁷: **B64D 37/00**
- (21) International Application Number:
PCT/US2002/024554
- (22) International Filing Date: 3 August 2002 (03.08.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
10/199,134 22 July 2002 (22.07.2002) US
- (63) Related by continuation (CON) or continuation-in-part (CIP) to earlier applications:
US 09/643,804 (CIP)
Filed on 22 August 2000 (22.08.2000)
US 09/620,812 (CIP)
Filed on 21 July 2000 (21.07.2000)
- (71) Applicant: BARTOV, Asher [US/US]; 603 N. Linden Drive, Beverly Hills, CA 90210 (US).
- (74) Agent: SIEGEL, Ira, M.; Law offices of Ira M. Siegel, Suite 970, 433 N. Camden Drve, Beverly Hills, CA 90210 (US).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Declaration under Rule 4.17:
— of inventorship (Rule 4.17(iv)) for US only
- Published:
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: APPARATUS AND METHOD FOR CONTROLLING AERIAL REFUELING HOSE



WO 2004/016505 A1

(57) Abstract: The invention is a variable displacement hydraulic motor-controlled hose reel drive system (10) for aerial refueling of a receiver aircraft from a tanker aircraft. The system includes a variable displacement hydraulic motor (26), a tachometer (34), a position sensor (34), a reaction torque sensor (36) and a microprocessor (29) which, depending upon data received from the system's position and reaction torque sensors, sends appropriate signals to the motor. The invention is also a method for deploying a hose and drogue so as to reduce the likelihood that the hose (22) would go into oscillation after initial engagement of a receiver aircraft's probe with the drogue (24). In an embodiment of the invention, the hose (22) is retracted prior to hook up of the probe and drogue (24), and the force required to retract the hose (22) is recorded. After initial engagement of the probe with the drogue (24), the hose (22) is retracted until the force required to retract the hose rises to about the same force previously recorded.